

Photointerpretation and field check 1979 This map has not been edited or reviewed for conformity with Geological Survey standards and nomenclature.

Some landslides from Felton, C.L. Jr., 1978, Mass Movement in The Smoke Hole Region, Valley and Ridge Physiographic Province: West Virginia. Ms. thesis, W. Va. Univ., 56p.

ACTIVE OR RECENTLY ACTIVE LANDSLIDE Complex landslide composed of earthflow, sebris slide, earth and rock slump. Identified from historical records, and from scars, cearis and other field evidence. Ground extreme . instable; sliding accelerated by excavation, lossing and changes in drainage conditions. May 'st'ude areas with several active slides too small to be shown separately. Questioned where coubtful.

OLD LANDSLIDE Area of extensive hummocky ground caused by earthflow and earth and rock slump. Lacks clear evidence of active sliding. Relatively stable in natural, undisturbed state. generally not affected by small structures properly sited in areas away from the edge of the toe; can be reactivated by extensive, rapic excavation, loading, and changes in ground water and surface water conditions. Area of old landslide probably includes recent ones not identified from field evidence or otherwise documented. Upslope boundary of landslide generally defined by modified scarp, but downslope (toe -ay be gradational and not well defined. Questioned where doubtful.

COMBINATION LANDSLIDE Area of recent and old slides in which individual slides are not identified.

COLLUVIAL SLOPE

Valley wall along major streams with slope as steep as 40° (85°); stony, clayey silt soil up to 50 ft. (15 m) thick; commonly buttressed by a terrace or bench at the toe of the siece; very susceptible to sliding by cutting of the area, removal of terrace or bench, and overloading; slide commonly activated without apparent cause. Roger E. Thomas and Robert J. Hackman

U.S. Geological Survey OPEN FILE MAP 80-194 (G-7)

COLLUVIAL SLOPES WITH LANDSLIDES Landslides too small or obscure to map individually.

AREAS SUSCEPTIBLE TO DEBRIS FLOWS AND DEBRIS AVALANCHES

Primarily shallow, narrow ravines and chutes with accumulation of stony colluvium generally 10 ft. (3 m) or less in thickness; susceptible to rapid movement during intense rainfall. Most ravines and chutes designated show evidence of former debris flows and avalanches. Symbol & designates historical debris flow or debris avalanche.

AREAS SUSCEPTIBLE TO ROCKFALL Steep, locally vertical, natural and man-made slopes and cliffs, 15 ft. (4.5 m) or more high; formed dominantly of sandstone, limestone, sandy shale, mudstone and claystone. Interbedded mudstone, claystone and shale weather rapidly leaving sandstone and limestone rock faces unsupported.

SOIL AND ROCK SUSCEPTIBLE TO LANDSLIDING Soil and rock similar to that involved in landslides elsewhere in map area; primarily areas. underlain by claystone, mudstone and shale associated with other rock types. Rock weathers rapidly on exposure forming clayey soil highly susceptible to sliding. Includes coves (U-shaped, shallow valleys) containing thick layers of clavey soil that are very susceptible to sliding where excavation breaks continuity of slope and where overloaded by artificial fill.

> AREAS LEAST PROVE TO LANDSLIDES Map areas in which no patterns or symbols are shown; primarily valley floors, ridge tops and broad benches; modification by excavation and fill may lead to local landslides.

The first five digits of the open file number designate the specific 1:250,000 scale map sheet of which this quadrangle is a part. The last two digits designate the position of the quadrangle in a subdivision of the 1:250,000 scale map based on rows and tiers shown in the diagram to the right. The location of this quadrangle is shown by the black square.

at any point in the unit. This map is suitable for general planning purposes and as a supplement to more detailed studies for site selection. The map cannot be used as a substitute for detailed geologic and engineering investigations to establish design and construction criteria of specific sites. Some symbols may not appear on this map because the description is applicable to a series of maps.

MAN-MADE FEATURES Strip mines (combination of letter symbols

indicates complex formed of more than one type of strip mine) bench with high wall

furrowed with high wall

multiple furrows and multiple benches

hilltop removed

reclaimed by grading

reclaimed by secondary use regraded in part, high wall

Coal refuse banks identified on aerial photographs; not classified in field check

remains

not burnt nor on fire

burnt rbb

burning rbd

rbs sludge

Quarries quarry site

spoil bank, quarry waste

Gravel pits site of gravel pit

Slides in man-made features

earth flow in fill earth flow in strip castings

earth flow in coal refuse

Charlottesville 1° by 2° sheet

